What is claimed is:

1. A method of cementing in a subterranean formation comprising:

providing a cement composition comprising a hydraulic cement and a degradable material;

placing the cement composition into a subterranean formation;

allowing the cement composition to set therein; and

allowing the degradable material to degrade.

2. The method of claim 1 wherein the cement composition further comprises water, and wherein the water is present in the cement composition in an amount sufficient to form a pumpable slurry.

3. The method of claim 2 wherein the water is present in the cement composition in an amount in the range of from about 25% to about 150% by weight of the cement.

4. The method of claim 2 wherein the water is present in the cement composition in an amount in the range of from about 30% to about 75% by weight of the cement.

5. The method of claim 1 wherein the hydraulic cement comprises Portland cements, pozzolanic cements, gypsum cements, high alumina content cements, phosphate cements, silica cements, or high alkalinity cements.

6. The method of claim 1 wherein the degradable material comprises a material that degrades at a desired time after contact with the cement composition.

7. The method of claim 1 wherein the degradable material comprises a material that prevents fluid loss into the subterranean formation.

8. The method of claim 1 wherein the degradable material degrades after the cement composition sets therein.

9. The method of claim 1 wherein the degradable material degrades before or while the cement composition sets therein.

10. The method of claim 1 wherein the degradable material, upon degradation, forms at least one gas, salt or combination thereof.

11. The method of claim 1 wherein the degradable material comprises an aliphatic polyester; a poly(lactide); a poly(glycolide); a poly(ε-caprolactone); a poly(hydroxybutyrate); a poly(anhydride); an aliphatic polycarbonate; an ortho ester, a poly(orthoester); a poly(vinylacetate); or a combination thereof.

12. The method of claim 1 wherein the degradable material comprises a polyamide.

13. The method of claim 1 wherein the degradable material comprises a protein; a polyaminoacid; a nylon; a poly(caprolactam); or a combination thereof.

14. The method of claim 1, wherein the degradable material comprises polylactic acid, cellulose acetate, or a combination thereof.

15. The method of claim 1 wherein the cement composition further comprises a fluid loss control additive, a defoamer, a dispersing agent, a set accelerator, a salt, a formation conditioning agent, a weighting agent, a set retarder, a hollow glass or ceramic bead, an elastomer, or a combination thereof.

16. The method of claim 1 wherein the degradable material comprises particles in the form of a thin film, a flake, a substantially spherical particle, a bead, a fiber, or a combination thereof.

17. The method of claim 1 wherein the degradable material is present in the cement composition in an amount sufficient to leave voids in the cement composition that enhance the mechanical properties of the cement composition.

18. The method of claim 17 wherein the properties that are enhanced include the elasticity, resiliency, and/or ductility of the set cement.

19. The method of claim 1 wherein the degradable material is present in the cement composition in an amount in the range of from about 1% to about 25% by weight of cement.

20. The method of claim 1 wherein the degradable material is present in the cement composition in an amount in the range of from about 5% to about 15% by weight of cement.

21. The method of claim 1 wherein the cement composition further comprises a polymer emulsion.

22. The method of claim 21, wherein the polymer emulsion is present in the cement composition in an amount in the range of from about 5% to about 100% by weight of an amount of water in the cement composition.

23. The method of claim 21 wherein the polymer emulsion comprises a polar monomer and at least one elasticity-enhancing monomer.

24. The method of claim 23 wherein the polar monomer is selected from the group consisting of: vinylamine, vinyl acetate, acrylonitrile, and the acid, ester, amide, and salt forms of acrylates.

25. The method of claim 23 wherein the at least one elasticity-enhancing monomer is selected from the group consisting of: ethylene, propylene, butadiene, 1,3-hexadiene, and isoprene.

26. The method of claim 23 wherein the polar monomer is present in the polymer emulsion in an amount in the range of from about 1% to about 90% by weight of the polymer emulsion.

27. The method of claim 23 wherein the at least one elasticity-enhancing monomer is present in the polymer emulsion in an amount in the range of from about 10% to about 99% by weight of the polymer emulsion.

28. The method of claim 23 wherein the polymer emulsion further comprises a stiffness-enhancing monomer.

29. The method of claim 25 wherein the stiffness-enhancing monomer is selected from the group consisting of: styrene, t-butylstyrene, α-methylstyrene, and sulfonated styrene.

30. The method of claim 28 wherein the stiffness-enhancing monomer is present in the polymer emulsion in an amount in the range of from about 0.01% to about 70% by weight of the polymer emulsion.

31. The method of claim 21 wherein the polymer emulsion comprises an aqueous styrene butadiene latex.

32. The method of claim 21 wherein the cement composition further comprises a surfactant.

33. The method of claim 32 wherein the surfactant comprises a nonionic ethoxylated nonylphenol.

34. The method of claim 32 wherein the surfactant is present in the cement composition in an amount in the range of from about 10% to about 20% by weight of the polymer emulsion.

35. The method of claim 1 wherein the cement composition comprises a gas.

36. The method of claim 35 wherein the gas is nitrogen.

37. The method of claim 36 wherein the gas is present in the cement composition in an amount sufficient to provide a gas concentration in the range of from about 0.5% to about 30% by volume of the cement composition, measured when the cement composition has been placed in the subterranean formation.

38. The method of claim 1 wherein the cement composition comprises a gas-generating additive.

39. The method of claim 38 wherein the gas-generating additive comprises an aluminum powder or azodicarbonamide.

40. The method of claim 38 wherein the gas-generating additive is capable of generating hydrogen or nitrogen *in situ*.

41. The method of claim 38 wherein the gas-generating additive is present in the cement composition in an amount in the range of from about 0.1% to about 5% by weight of the cement.

42. The method of claim 39 wherein the aluminum powder is present in the cement composition in an amount in the range of from about 0.1% to about 1% by weight of the cement.

43. The method of claim 39 wherein the azodicarbonamide is present in the cement composition in an amount in the range of from about 0.5% to about 5% by weight of the cement.

44. The method of claim 1 wherein the subterranean formation comprises a multilateral well.

45. The method of claim 1 wherein the subterranean formation comprises a well bore that comprises an expandable tubular.

46. The method of claim 1, wherein the cement is a Portland cement; wherein the degradable material is polylactic acid, wherein the polylactic acid is present in the cement composition in an amount in the range of about 1% to about 25% by weight of the cement; wherein the cement composition further comprises water, and wherein the water is present in the cement composition in an amount in the range of from about 25% to about 150% by weight of the cement.

47. A method of enhancing the mechanical properties of a cement composition comprising:

adding a degradable material to the cement composition; and

allowing the degradable material to degrade.

48. The method of claim 47 wherein the degradable material degrades at a desired time after contact with the cement composition.

49. The method of claim 47 wherein the degradable material, upon degradation, forms at least one gas, salt or combination thereof.

50. The method of claim 47 wherein the degradable material comprises an aliphatic polyester; a poly(lactide); a poly(glycolide); a poly(ε-caprolactone); a poly(hydroxybutyrate); a poly(anhydride); an aliphatic polycarbonate; an ortho ester, a poly(orthoester); a poly(vinylacetate); or a combination thereof.

51. The method of claim 47 wherein the degradable material comprises a polyamide.

52. The method of claim 47 wherein the degradable material comprises a protein; a polyaminoacid; a nylon; a poly(caprolactam); or a combination thereof.

53. The method of claim 47 wherein the degradable material comprises polylactic acid, cellulose acetate or a combination thereof.

54. The method of claim 47 wherein the cement composition further comprises a fluid loss control additive, a defoamer, a dispersing agent, a set accelerator, a salt, a formation conditioning agent, a weighting agent, a set retarder, a hollow glass or ceramic bead, an elastomer, or a combination thereof.

55. The method of claim 47 wherein the degradable material comprises particles in the form of a thin film, a flake, a substantially spherical particle, a bead, a fiber, or a combination thereof.

56. The method of claim 47 wherein the degradable material is present in the cement composition in an amount sufficient to leave voids in the set cement that enhance the mechanical properties of the set cement.

57. The method of claim 56 wherein the properties that are enhanced include the elasticity, resiliency, and/or ductility of the set cement.

58. The method of claim 47 wherein the degradable material is present in the cement composition in an amount in the range of from about 1% to about 25% by weight of cement.

59. The method of claim 47 wherein the degradable material is present in the cement composition in an amount in the range of from about 5% to about 15% by weight of cement.

60. The method of claim 47 wherein the cement composition further comprises a polymer emulsion.

61. The method of claim 60, wherein the polymer emulsion is present in the cement composition in an amount in the range of from about 5% to about 100% by weight of an amount of water in the cement composition.

62. The method of claim 60 wherein the polymer emulsion comprises a polar monomer and at least one elasticity-enhancing monomer.

63. The method of claim 62 wherein the polar monomer is selected from the group consisting of: vinylamine, vinyl acetate, acrylonitrile, and the acid, ester, amide, and salt forms of acrylates.

64. The method of claim 62 wherein the at least one elasticity-enhancing monomer is selected from the group consisting of: ethylene, propylene, butadiene, 1,3-hexadiene, and isoprene.

65. The method of claim 62 wherein the polar monomer is present in the polymer emulsion in an amount in the range of from about 1% to about 90% by weight of the polymer emulsion.

66. The method of claim 62 wherein the at least one elasticity-enhancing monomer is present in the polymer emulsion in an amount in the range of from about 10% to about 99% by weight of the polymer emulsion.

67. The method of claim 62 wherein the polymer emulsion further comprises a stiffness-enhancing monomer.

68. The method of claim 67 wherein the stiffness-enhancing monomer is selected from the group consisting of: styrene, t-butylstyrene, α-methylstyrene, and sulfonated styrene.

69. The method of claim 67 wherein the stiffness-enhancing monomer is present in the polymer emulsion in an amount in the range of from about 0.01% to about 70% by weight of the polymer emulsion.

70. The method of claim 50 wherein the polymer emulsion is an aqueous styrene butadiene latex.

71. The method of claim 60 wherein the cement composition further comprises a surfactant.

72. The method of claim 71 wherein the surfactant comprises a nonionic ethoxylated nonylphenol.

73. The method of claim 71 wherein the surfactant is present in the cement composition in an amount in the range of from about 10% to about 20% by weight of the latex.

74. The method of claim 47 wherein the cement composition comprises a gas.

75. The method of claim 74 wherein the gas is nitrogen.

76. The method of claim 74 wherein the gas is present in the cement composition in an amount sufficient to provide a gas concentration in the range of from about 0.5% to about 30% by volume of the cement composition, measured when the cement composition has been placed in the subterranean formation.

77. The method of claim 47 wherein the cement composition comprises a gas-generating additive.

78. The method of claim 77 wherein the gas-generating additive comprises an aluminum powder or azodicarbonamide.

79. The method of claim 77 wherein the gas-generating additive is capable of generating hydrogen or nitrogen *in situ*.

80. The method of claim 77 wherein the gas-generating additive is present in the cement composition in an amount in the range of from about 0.1% to about 5% by weight of the cement.

81. The method of claim 78 wherein the aluminum powder is present in the cement composition in an amount in the range of from about 0.1% to about 1% by weight of the cement.

82. The method of claim 78 wherein the azodicarbonamide is present in the cement composition in an amount in the range of from about 0.5% to about 5% by weight of the cement.

83. The method of claim 47 wherein the cement is a Portland cement; wherein the degradable material is polylactic acid, wherein the polylactic acid is present in the cement composition in an amount in the range of about 1% to about 25% by weight of the cement; and wherein water is present in the cement composition in an amount in the range of from about 25% to about 150% by weight of the cement.

84. A cement composition comprising a hydraulic cement and a degradable material.

85. The cement composition of claim 84 further comprising water, wherein the water comprises fresh water, salt water, brine, seawater, or combinations thereof.

86. The cement composition of claim 85 wherein the water is present in the cement composition in an amount sufficient to form a pumpable slurry.

87. The cement composition of claim 85 wherein the water is present in the cement composition in an amount in the range of from about 25% to about 150% by weight of the cement.

88. The cement composition of claim 85 wherein the water is present in the cement composition in an amount in the range of from about 30% to about 75% by weight of the cement.

89. The cement composition of claim 84 wherein the hydraulic cement comprises a Portland cement, a pozzolanic cement, a gypsum cement, a high alumina content cement, a phosphate cement, a silica cement, or a high alkalinity cement.

90. The cement composition of claim 84 wherein the degradable material degrades at a desired time after contact with the cement composition.

91. The cement composition of claim 84 wherein the degradable material comprises a material that prevents fluid loss into the subterranean formation.

92. The cement composition of claim 84 wherein the degradable material, upon degradation, forms at least one gas, salt or combination thereof.

93. The cement composition of claim 84 wherein the degradable material comprises an aliphatic polyester; a poly(lactide); a poly(glycolide); a poly(ε-caprolactone); a poly(hydroxybutyrate); a poly(anhydride); an aliphatic polycarbonate; an ortho ester, a poly(orthoester); a poly(vinylacetate); or a combination thereof.

94. The cement composition of claim 84 wherein the degradable material comprises a polyamide.

95. The cement composition of claim 84 wherein the degradable material comprises a protein; a polyaminoacid; a nylon; a poly(caprolactam); or a combination thereof.

96. The cement composition of claim 84 wherein the degradable material comprises polylactic acid, cellulose acetate or a combination thereof.

97. The cement composition of claim 84 wherein the cement composition further comprises a fluid loss control additive, a defoamer, a dispersing agent, a set accelerator, a salt, a

formation conditioning agent, a weighting agent, a set retarder, a hollow glass or ceramic bead, an elastomer, or a combination thereof.

98. The cement composition of claim 84 wherein the degradable material comprises particles in the form of a thin film, a flake, a substantially spherical particle, a bead, a fiber, or a combination thereof.

99. The cement composition of claim 84 wherein the degradable material is present in the cement composition in an amount sufficient to leave voids in the set cement that enhance the mechanical properties of the set cement.

100. The cement composition of claim 99 wherein the properties that are enhanced include the elasticity, resiliency, and/or ductility of the set cement.

101. The cement composition of claim 84 wherein the degradable material is present in the cement composition in an amount in the range of from about 1% to about 25% by weight of cement.

102. The cement composition of claim 84 wherein the degradable material is present in the cement composition in an amount in the range of from about 5% to about 15% by weight of cement.

103. The cement composition of claim 84 wherein the cement composition further comprises a polymer emulsion.

104. The cement composition of claim 103, wherein the polymer emulsion is present in the cement composition in an amount in the range of from about 5% to about 100% by weight of an amount of water in the cement composition.

105. The cement composition of claim 103 wherein the polymer emulsion comprises a polar monomer and at least one elasticity-enhancing monomer.

106. The cement composition of claim 105 wherein the polar monomer is selected from the group consisting of: vinylamine, vinyl acetate, acrylonitrile, and the acid, ester, amide, and salt forms of acrylates.

107. The cement composition of claim 105 wherein the at least one elasticity-enhancing monomer is selected from the group consisting of: ethylene, propylene, butadiene, 1,3-hexadiene, and isoprene.

108. The cement composition of claim 105 wherein the polar monomer is present in the polymer emulsion in an amount in the range of from about 1% to about 90% by weight of the polymer emulsion.

109. The cement composition of claim 105 wherein the at least one elasticity-enhancing monomer is present in the polymer emulsion in an amount in the range of from about 10% to about 99% by weight of the polymer emulsion.

110. The cement composition of claim 105 wherein the polymer emulsion further comprises a stiffness-enhancing monomer.

111. The cement composition of claim 110 wherein the stiffness-enhancing monomer is selected from the group consisting of: styrene, t-butylstyrene, α-methylstyrene, and sulfonated styrene.

112. The cement composition of claim 110 wherein the stiffness-enhancing monomer is present in the polymer emulsion in an amount in the range of from about 0.01% to about 70% by weight of the polymer emulsion.

113. The cement composition of claim 103 wherein the polymer emulsion is an aqueous styrene butadiene latex.

114. The cement composition of claim 103 wherein the cement composition further comprises a surfactant.

115. The cement composition of claim 114 wherein the surfactant is a nonionic ethoxylated nonylphenol.

116. The cement composition of claim 114 wherein the surfactant is present in the cement composition in an amount in the range of from about 10% to about 20% by weight of the latex.

117. The cement composition of claim 84 wherein the cement composition comprises a gas.

118. The cement composition of claim 117 wherein the gas is nitrogen.

119. The cement composition of claim 117 wherein the gas is present in the cement composition in an amount sufficient to provide a gas concentration in the range of from about 0.5% to about 30% by volume of the cement composition, measured when the cement composition has been placed in the subterranean formation.

120. The cement composition of claim 84 wherein the cement composition comprises a gas-generating additive.

121. The cement composition of claim 120 wherein the gas-generating additive comprises an aluminum powder or azodicarbonamide.

122. The cement composition of claim 120 wherein the gas-generating additive is capable of generating hydrogen or nitrogen *in situ*.

123. The cement composition of claim 120 wherein the gas-generating additive is present in the cement composition in an amount in the range of from about 0.1% to about 5% by weight of the cement.

124. The cement composition of claim 121 wherein the aluminum powder is present in the cement composition in an amount in the range of from about 0.1% to about 1% by weight of the cement.

125. The cement composition of claim 121 wherein the azodicarbonamide is present in the cement composition in an amount in the range of from about 0.5% to about 5% by weight of the cement.

126. The cement composition of claim 84 wherein the cement is a Portland cement; wherein the degradable material is polylactic acid, wherein the polylactic acid is present in the cement composition in an amount in the range of about 1% to about 25% by weight of the cement; and wherein water is present in the cement composition in an amount in the range of from about 25% to about 150% by weight of the cement.